

29 the permeability of a subsurface formation by introducing into the formation a gel which
30 is not water soluble, wherein the gel is made by first polymerizing a water soluble
31 polymer and then cross linking the water soluble polymer.

32 The method disclosed by Kato fails to explicitly state that the resin prepared is a
33 water insoluble gel. However, Applicant, based on the expression in Kato that the
34 produced resin is "in an aqueous gel state," infers that the Kato resin is a water
35 insoluble gel.

36 **Claims 1, 2 and 6 are not anticipated and are in condition for allowance.**

37 With regard to claims 1, 2 and 6, Kato does not disclose a method of making a
38 water soluble polymer. Kato does not disclose combining an acrylic acid compound
39 (such as acrylic acid), with a reactant selected from the group consisting of a divalent
40 metal salt of the acrylic acid compound (such as magnesium acrylate), a monovalent
41 metal salt of the acrylic acid compound (such as an alkali metal acrylate) and mixtures
42 thereof to form a polymer precursor. Kato does not disclose combining the precursor
43 with a polymerization initiator (such as free radical initiator) to form the water soluble
44 polymer.

45 In contrast Kato specifically discloses making a mixture of sodium acrylate and
46 magnesium acrylate and reacting the mixture in the presence of a divinylic containing
47 monomer and a free radical initiator to form the water insoluble gel.

48 It is clear that Kato does not include acrylic acid in his polymerization mixture
49 and Applicant does not include a divinylic containing monomer in his polymerization
50 mixture.

51 **Claims 3, 4, 5, 7 and 8 are not anticipated and are in condition for allowance.**

52 With regard to claims 3, 4, 5, 7 and 8, Kato does not disclose combining his
53 resin with a cross linking agent (such as a trivalent metal) to form the water insoluble
54 gel.

55 In contrast, Applicant claims the step of combining his water soluble polymer with
56 a cross linking agent (such as a trivalent metal) to form the water insoluble gel.

57 **Claims 12 and 13 are not anticipated and are in condition for allowance**

58 With regard to claims 12 and 13, Kato does not disclose a method of making a
59 water soluble polymer by mixing an acrylic acid compound (such as acrylic acid), with a
60 material selected from the group consisting of a divalent metal compound (such as
61 magnesium hydroxide), a monovalent metal compound (such as sodium hydroxide) and
62 mixtures thereof to form a polymer precursor. Kato does not disclose combining the
63 precursor with a polymerization initiator (such as free radical initiator) to form the water
64 soluble polymer.

65 **Claims 14 and 15 are not anticipated and are in condition for allowance.**

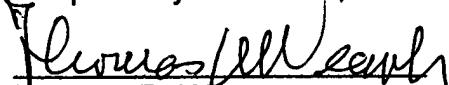
66 With regard to claims 14 and 15, Kato does not disclose a method of adjusting
67 the permeability of a subsurface formation by any means, including introducing a water
68 insoluble gel into the formation. Kato does not disclose making the gel by: combining
69 acrylic acid with a reactant selected from the group consisting of an alkaline earth metal
70 salt of acrylic acid, an alkali metal salt of acrylic acid and mixtures thereof to form a
71 polymer precursor; combining the precursor with a polymerization initiator (such as free

72 radical initiator) to form a water soluble polymer; and combining the polymer with a
73 cross linking agent to form the gel.

74 **Claim 16 is not anticipated and is in condition for allowance.**

75 With regard to claim 16, Kato does not disclose a method of adjusting the
76 permeability of a subsurface formation by any means including introducing a water
77 insoluble gel into the formation. Kato does not disclose making the gel by: mixing
78 acrylic acid with a material selected from the group consisting of magnesium hydroxide,
79 sodium hydroxide and mixtures thereof to form a polymer precursor; combining the
80 precursor with a polymerization initiator (such as free radical initiator) to form a water
81 soluble polymer; and combining the polymer with a cross linking agent to form the gel.

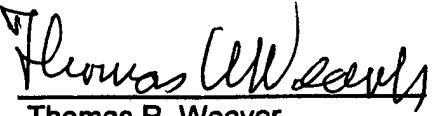
82 This application is in condition for allowance. Reconsideration and allowance
83 are requested.

84
85
86
87 Respectfully submitted,

Thomas R. Weaver
Registration No. 25,613

88 Post Office Box 1405
89 Duncan, Oklahoma 73534
90 Telephone: (580) 255-6911

91 **CERTIFICATE OF MAILING**

92
93 I hereby certify that the within and foregoing document, together with the attachments
94 referred to therein, if any, is being deposited by the undersigned with the United States Postal
95 Service as first class mail in an envelope, with sufficient postage, addressed to the
96 Commissioner For Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on March 11,
97 2006.

98
99
100 
Thomas R. Weaver
Registration No. 25,613